LMSC 8030706
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Case file

JOINT MESSAGEFORM

SECURITY CLASSIFICATION: [redacted]

SPACE BELOW RESERVED FOR COMMUNICATION CENTER

[redacted]

LXX

PRECEDENCE	TYPE MSG (Check)			ACCOUNTING SYMBOL	ORIG. OR REFERS TO	CLASSIFICATION OF REFERENCE
ACTION	BOOK	MULTI	SINGLE			
INFO						

FROM:
6595TH AEROSPACE TEST WING, VANDENBERG AFB, CALIF., VWZD

SPECIAL INSTRUCTIONS

TO:
SPACE SYSTEMS DIV, LOSA CALIF.

SUBJECT: EIGHT-HOUR FLASH REPORT

1. SUMMARY Ltr. 20-29-8-370

A VEHICLE CONSISTING OF SLV-2 BOOSTER NO. 394 AND S-01A ORBITAL STAGE NO. 1169 WAS LAUNCHED ON THE FIRST ATTEMPT FROM VAFB COMPLEX 3, PAD 5, AT 1331:03.92 PDT, ON 29 AUGUST 1963. THE PRIMARY LAUNCH OBJECTIVE, TO PLACE THE S-01A SATELLITE WITH PAYLOAD IN A NEAR-POLAR CIRCULAR ORBIT, WAS ACCOMPLISHED, HOWEVER, TWO ANOMOLIES WERE NOTED DURING ASCENT.

1. THE S-01A EXPERIENCED A SEVERE ELECTRICAL TRANSIENT FOR 0.8 SEC DURING SEPARATION.

2. THE SHUTDOWN OF THE S-01A ENGINE WAS ABNORMAL.

THE VTR RADAR PLOTBOARD INDICATED THE FOLLOWING APPROXIMATE INJECTION CONDITIONS: ALTITUDE 194.5

[redacted]

DATE	TIME
29	
MONTH	YEAR
Aug.	63

WRITER

SYMBOL

TYPED NAME AND TITLE (Signature, if required)
Maj. F. L. Wright, USAF

PHONE 866-3771 | PAGE NR. 1 | NR. OF PAGES 6

SECURITY CLASSIFICATION [redacted]

RELEASER

SIGNATURE

TYPED (or stamped) NAME AND TITLE

DOWNGRADED AT 3 YEAR INTERVALS,
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DOD DIRECTIVE 5200.10

DD FORM 1 MAY 55 173 REPLACES DD FORM 173, 1 OCT 49, WHICH WILL BE USED UNTIL EXHAUSTED

JOINT MESSAGEFORM - CONTINUATION SHEET

SECURITY CLASSIFICATION [redacted]

FROM:

6595TH AEROSPACE TEST WING, VANDENBERG AFB, CALIF.

STATUTE MILES; PAD REFERENCED VELOCITY, 25,420 FPS;
ELEVATION FLIGHT PATH ANGLE, APPROXIMATELY +0.5 DEG;
AZIMUTH FLIGHT PATH ANGLE, APPROXIMATELY 173.5 DEG.
THE CRUCIAL PERIOD APPEARS TO BE NEAR-NOMINAL, BASED
ON FIRST PASS ACQUISITION.

II. SIGNIFICANT EVENTS

THE OCCURRENCE OF SIGNIFICANT LAUNCH EVENTS ARE
AS FOLLOWS:

LIFTOFF (1351:03.92 PST) (SYSTEM TIME 73863.92)	ZERO	
STEERING INITIATED	92.51	SEC
STEERING TERMINATED	143.72	SEC
MECO (S1)	147.32	SEC
VECO	156.26	SEC
SEPARATION COMMAND (S2)	160.67	SEC
BURNING OF APPARENT SHORT	160.77	SEC
END OF APPARENT SHORT	161.52	SEC
SEPARATION COMPLETE	162.85	SEC
ULLAGE ROCKET IGNITION	186.24	SEC
S-01A ENGINE IGNITION	189.24	SEC
S-01A THRUST ATTAINMENT	190.41	SEC
STEERING INITIATED	200.36	SEC
STEERING TERMINATED	215.69	SEC

[redacted] PAGE NR. 2 NR. OF PAGES [redacted] INITIALS

DD FORM 173-1 MAY 55

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JOINT MESSAGEFORM - CONTINUATION SHEET | SECURITY CLASSIFICATION [redacted]

FROM:

6595TH AEROSPACE TEST WING, VANDENBERG AFB, CALIF.

VELOCITY METER ENABLE (S3)	420.90	SEC
S-3A CUTOFF GENERATED BY VELOCITY METER	431.91	SEC
S-3A CUTOFF ACCOMPLISHED (70 PER CENT PC)	432.11	SEC
VTS VERNIER RADAR FADE	500	SEC
VTS ACQUISITION BEACON FADE	531	SEC
VTS TELEMETRY DATA FADE (LINK 1)	532	SEC
VTS TELEMETRY SIGNAL FADE (LINK 2)	563	SEC

III. SLV-3

ALL SLV-3 SUBSYSTEMS PERFORMED ABNORMALLY FOR ACHIEVEMENT OF THE PRIMARY TEST OBJECTIVES. MAIN ENGINE CUTOFF (MECO) OCCURRED IN RESPONSE TO THE GROUND GUIDANCE COMMAND AS PREDICTED.

IV. COMMAND GUIDANCE

PERFORMANCE OF THE COMMAND GUIDANCE SYSTEM APPEARS TO HAVE BEEN SATISFACTORY. [redacted]. QUICK LOOK EVALUATION OF THE TRAJECTORY VECTOR AT GUIDANCE TERMINATION PREDICTED THE FOLLOWING VALUES: INJECTION ALTITUDE OF 145.300 NM (NOMINAL 144.62 NM), INJECTION FLIGHT PATH ANGLE OF -0.215 DEG (NOMINAL: ZERO DEG), ORBITAL PERIOD OF 88.215 MIN (NOMINAL: 88.61 MIN), AND

SYMBOL [redacted] | PAGE NR 3 | NR OF PAGES | SECURITY CLASSIFICATION [redacted] | INITIALS

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6595TH AEROSPACE TEST WING, VANDENBERG AFB, CALIF.

ORBITAL INCLINATION ANGLE OF 81.908 DEG (NOMINAL: 81.94 DEG).

PRELIMINARY ORBITAL DATA BASED ON EARLY PASSES PROVIDE THE FOLLOWING VALUES: PERIGEE ALTITUDE OF 162 NM, APOGEE ALTITUDE OF 169 NM, ECCENTRICITY OF 0.002, PERIOD OF 88.52 MIN, AND INCLINATION ANGLE OF 81.9 DEG.

V. S-IVA PERFORMANCE

ALL S-IVA VEHICLE SUBSYSTEMS PERFORMED ADEQUATELY DURING LAUNCH TO ACHIEVE ORBITAL INJECTION; HOWEVER TWO ANOMALIES WERE EVIDENT DURING ASCENT.

AN EXCESSIVE CURRENT TRANSIENT EXISTED FOR 0.75 SEC FOLLOWING THE INITIATION OF SEPARATION. THE CURRENT MONITOR INDICATED A CURRENT FLOW IN EXCESS OF 50 AMPS DURING THIS INTERVAL. THIS CURRENT DRAIN WAS REFLECTED AS A 1.8 VOLT DROP IN THE UNREGULATED 28V BUS VOLTAGE DURING THE SAME INTERVAL.

IT APPEARS THAT NO PERMANENT DAMAGE RESULTED FROM THIS APPARENT SHORT.

AN ABNORMALITY WAS OBSERVED IN THE NATURE OF THE ENGINE SHUTDOWN. A SHUTDOWN SIGNAL WAS

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FROM:

6595TH AEROSPACE TEST WING, VANDENBERG AFB, CALIF.

TRANSMITTED BY THE VELOCITY METER TO THE ENGINE RELAY BOX AND WAS OBSERVED TO HAVE ACTUATED THE SHUTDOWN RELAY, BUT ACTUAL SHUTDOWN WAS DELAYED UNTIL 9.2 SECONDS LATER. THIS TIME DELAY IS INDICATIVE OF A SLOW CLOSURE OF THE FUEL VALVE AND IT RESULTED IN A POST-SHUTDOWN VELOCITY GAIN OF 55 FPS AS COMPARED WITH THE EXPECTED 32 FPS. THIS AN EXCESS OF 23 FPS IN INJECTION VELOCITY IS ATTRIBUTABLE TO THE SLOW SHUTDOWN.

AT THE TIME OF TELEMETRY SIGNAL FADE AT VIS, THE ORBITAL TIMER WAS SET AT 5435 SEC. (STEP 248) IN THE RESET ON POSITION IN THE DECREASE MODE, AND RE-ENTRY DISABLE POSITION.

VI. SPACE-GROUND COMMUNICATIONS

TELEMETRY DATA FROM ALL LINES WERE SATISFACTORILY RECEIVED AND RECORDED. VERIORT RADAR MAINTAINED CONTINUOUS BEACON TRACK UNTIL HORIZON SIGNAL FADE AT 500 SEC.

VII. COUNTDOWN

THE COUNTDOWN WAS INITIATED AT 0830 PST ON 29 AUGUST 1963 AND PROCEEDED TO LIFTOFF WITH ONE MANUAL TECHNICAL HOLD NEED IMPOSED IN FRAME 1 OF TERMINAL COUNTDOWN [illegible] AND 1314 [illegible]

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CONFIDENTIAL

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FROM:

4392 TH AEROSPACE TEST WING, [redacted], CALIF.

OPERATION OF A PRESSURE SWITCH ON THE LAUNCHER. MECHANICAL TAPPING OF THE SWITCH RETURNED OPERATION TO NORMAL.

TASK 6 WAS DELAYED 30 MIN DUE TO AN ABNORMAL BLOCKED-SIN INDICATION OF THE S-61A TRANSPONDER RESPONSE DURING OPEN LOOP CHECK. NORMAL TRANSPONDER RESPONSE WAS VERIFIED AT T-8.

VII. AEROSPACE GROUND EQUIPMENT (AGE)

THE AGE PERFORMED SATISFACTORILY TO SUPPORT CHECKOUT AND LAUNCH OF THE VEHICLE WITH ONE EXCEPTION. IN PHASE I OF TERMINAL COUNTDOWN A MECHANICAL MALFUNCTION OCCURRED IN THE SLV-2 HYDRAULIC GROUND SUPPLY PRESSURE SWITCH WHICH IS LOCATED ON THE LAUNCHER. SLIGHT MECHANICAL TAPPING OF THE SWITCH RETURNED IT TO NORMAL OPERATION.

IX. FAD DAMAGE

FAD DAMAGE WAS NORMAL FOR A NON-FAT LAUNCH AND THE FAD TURNAROUND SCHEDULE CAN BE MAINTAINED.

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